

## **KUBOTA Corporation**

EXECUTIVE ORDER U-R-025-0905 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2020	LKBXL02.431D	1.826, 2.435	Diesel			
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT	APPLICATION		
Electronic Direct Injection, Turbocharger, Exhaust Gas Recirculation, Charge Air Cooler, Electronic Control Module, Periodic Trap Oxidizer, Diesel Oxidation Catalyst			Loader, Tractor, Pump, Compressor, Asphalt Finisher, Carrie Construction Machinery, Forklift, Garden Tractor, Mini Backhoe, Mower, Roller, Skid Steer Loader, Nonroad Sweeper, Utility Vehicle, Wood Chipper			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
19 ≤ kW < 56	Tier 4 Final	OPTIONAL STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT			3.1	0.03	0.000			

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part 1-D" adopted October 20, 2005 and last amended October 25, 2012.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this

day of November 2019.

Allen Lyons, Chief

Emissions Certification and Compliance Division

## **Engine Model Summary Form**

EO# U-R-025-0905 Date: 10/17/2019

**KUBOTA Corporation** Manufacturer:

Engine category: Nonroad CI EPA Engine Family:

LKBXL02.431D

Mfr Family Name:

Process Code:

**New Submission** 

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1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
C2.4-CR-T-EW04	C2.4-CR-T-EW	57.1@2400	42.2	22.6	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
D1803-CR-T-EW01	D1803-CR-T-EW	48.9@2700	43.1	19.5	109.4@1600	46.1	12.4	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EW01	V2403-CR-T-EW	67.3@2700	44.6	26.9	152.2@1600	48.7	17.4	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EW02	V2403-CR-T-EW	66.1@2700	44.0	26.6	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EW03	V2403-CR-T-EW	64.2@2700	43.2	26.1	144.3@1600	46.0	16.5	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EW04	V2403-CR-T-EW	57.1@2400	42.2	22.6	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EW04L	V2403-CR-T-EW	57.1@2400	42.2	22.6	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
V2403-CR-T-EW05	V2403-CR-T-EW	52.3@2200	41.0	20.2	144.3@1500	46.4	15.6	EM, DFI, TC, EGR, ECM, PTOX, DOC
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